



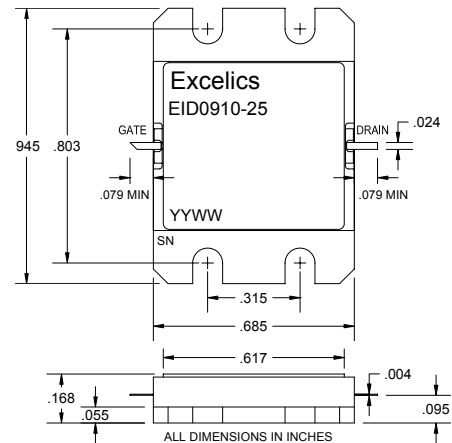
EID0910-25

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9.50-10.50 GHz 25-Watt Internally Matched Power FET

FEATURES

- 9.50– 10.50GHz Bandwidth
- Input/Output Impedance Matched to 50 Ohms
- +44 dBm Output Power at 1dB Compression
- 8.0 dB Power Gain at 1dB Compression
- 26% Power Added Efficiency
- -38 dBc IM3 at $P_o = 30.0$ dBm SCL
- Hermetic Metal Flange Package
- 100% Tested for DC, RF, and R_{TH}



ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ\text{C}$)



Caution! ESD sensitive device.

SYMBOL	PARAMETERS/TEST CONDITIONS ¹	MIN	TYP	MAX	UNITS
P_{1dB}	Output Power at 1dB Compression $f = 9.50-10.50\text{GHz}$ $V_{DS} = 10\text{ V}$, $I_{DSQ} \approx 4000\text{mA}$	43	44		dBm
G_{1dB}	Gain at 1dB Compression $f = 9.50-10.50\text{GHz}$ $V_{DS} = 10\text{ V}$, $I_{DSQ} \approx 4000\text{mA}$	7.0	8.0		dB
ΔG	Gain Flatness $f = 9.50-10.50\text{GHz}$ $V_{DS} = 10\text{ V}$, $I_{DSQ} \approx 4000\text{mA}$			± 0.6	dB
PAE	Power Added Efficiency at 1dB Compression $V_{DS} = 10\text{ V}$, $I_{DSQ} \approx 4000\text{mA}$ $f = 9.50-10.50\text{GHz}$		26		%
I_{d1dB}	Drain Current at 1dB Compression $f = 9.50-10.50\text{GHz}$		8000	9000	mA
IM3	Output 3rd Order Intermodulation Distortion $\Delta f = 10\text{ MHz}$ 2-Tone Test; $P_{out} = 30.0\text{ dBm S.C.L.}^2$ $V_{DS} = 10\text{ V}$, $I_{DSQ} \approx 65\% IDSS$ $f = 10.50\text{GHz}$	-33	-38		dBc
I_{DSS}	Saturated Drain Current $V_{DS} = 3\text{ V}$, $V_{GS} = 0\text{ V}$		14000	18000	mA
V_P	Pinch-off Voltage $V_{DS} = 3\text{ V}$, $I_{DS} = 140\text{ mA}$		-1.2	-2.5	V
R_{TH}	Thermal Resistance ²		1.4	1.6	$^\circ\text{C/W}$

Note: 1) Tested with 25 Ohm gate resistor. 2) Overall R_{th} depends on case mounting.

ABSOLUTE MAXIMUM RATING^{1,2}

SYMBOL	CHARACTERISTIC	VALUE
V_{DS}	Drain to Source Voltage	10 V
V_{GS}	Gate to Source Voltage	-3.0 V
I_{DS}	Drain Current	$IDSS$
I_{GSF}	Forward Gate Current	500 mA
P_{IN}	Input Power	@ 3dB compression
P_T	Total Power Dissipation	94 W
T_{CH}	Channel Temperature	175 $^\circ\text{C}$
T_{STG}	Storage Temperature	-65/+175 $^\circ\text{C}$

Notes: 1. Exceeding any of the above ratings may result in permanent damage.
2. Exceeding any of the above ratings may reduce MTTF below design goals.

Specifications are subject to change without notice.

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page 1 of 1

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